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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/812,104 | 03/30/2004 | Kenichi Torii | 1344.1141 | 1507 |

21171 7590 06/27/2006

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EXAMINER

DIACOU, ARI M

| | |
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| ART UNIT | PAPER NUMBER |
|----------|--------------|

3663

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------|--------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/812,104 | TORII ET AL. | |
| | Examiner | Art Unit | |
| | Ari M. Diacou | 3663 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In the remarks filed 4-12-2006, applicant argued the following:
 - A. On pages 12-14, that Akasaka is not available under 35 USC 102(b) because Akasaka's two pump sets have the same frequency range, an the claimed invention only reads on pumps with different wavelength ranges spaced by roughly integer number of Stokes shifts (excluding zero).
 - B. On page 2, that the applicant has submitted new drawings with the objections addressed.
2. Argument A. is convincing the rejection is hereby withdrawn. However, new art has been applied, see below.
3. Argument B. is convincing the objection is hereby withdrawn.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(b) or 103(a) as being anticipated/rendered obvious by Islam et al. (USP No. 2003/0016437).

- Regarding claim 1, Islam discloses a Raman amplifier for supplying pumping lights to an amplification medium through which is propagated a wavelength division multiplexed signal light obtained by multiplexing a plurality of signal lights of different wavelengths, to amplify the wavelength division multiplexed signal light due to a Raman effect [Abstract], comprising:
 - a first pumping light generating section that generates a plurality of pumping lights arranged at equal wavelength spacing in a signal light wavelength band where said plurality of signal lights are arranged, which is shifted to a shorter wavelength side in accordance with the wavelength width corresponding to a Raman shift frequency; [Fig. 4, “nth order Raman”]
 - a second pumping light generating section that generates pumping lights of one or more wavelengths arranged in a wavelength band on at least one of a shorter wavelength side and a longer wavelength side than a wavelength band of the pumping lights generated by said first pumping

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light generating section, the wavelength and power of which are set so that peak wavelength spacing of a Raman gain in the signal light wavelength band is substantially equal to each other; and [Fig. 4, "n-1 order Raman"]

- a multiplexing section that multiplexes the pumping lights generated respectively by said first and second pumping light generating sections to supply the multiplexed pumping light to said amplification medium.
 - [The multiplexers shown in figure 4 of Islam can read on "a multiplexing section" 102(b)]
 - [Alternatively, Islam discloses in figures 36 and 37 (and described in paragraphs 0187-0189, that the co/counter pumping mechanism (same as figure 4 of Islam), as well as the twice multiplexed pumping mechanism (shown in Fig. 1 of the instant application) are known in the art, rendering it obvious for one of ordinary skill in the art at the time the invention was made to use the pumping mechanism of Fig. 37 in the device of Fig. 1 for the advantage of optimizing gain for the advantages of counterpropagating pump light as known in the art. 103(a)]
- Regarding claim 2, Islam discloses where and why to place gain equalizers in paragraph 0172.
- Regarding claim 4, Islam discloses a Raman amplifier according to claim 1, *wherein the wavelength allocation is adopted, in which the signal light*

wavelength band is narrower than a wavelength band corresponding to the Raman shift frequency, and a signal light wavelength band and a pumping light wavelength band are separated from each other. [Figures 36-37] [Furthermore, the limitations of this claim are statements of intended use. The Stokes shift of 13.2 THz (100 nm @ 1550 nm) places a theoretical limit on the bandwidth of a Raman amplifier, it is a statement of intended use to limit the bandwidth of signals that **do** pass through, as opposed to the bandwidth that **could** pass through]

7. The italicized clauses are essentially method limitations or statements or intended or desired use. Thus, these claims as well as other statements of intended use do not serve to patentably distinguish the claimed structure over that of the reference. See In re Pearson, 181 USPQ 641; In re Yanush, 177 USPQ 705; In re Finsterwalder, 168 USPQ 530; In re Casey, 512 USPQ 235; In re Otto, 136 USPQ 458; Ex parte Masham, 2 USPQ 2nd 1647.

See MPEP § 2114 which states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ 2nd 1647

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. In re Danly, 120 USPQ 528, 531.

Apparatus claims cover what a device is not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP § 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim. In this case, light in any of its forms, frequencies, modulations, phases, polarizations or intensities is the article worked upon.

Conclusion


8. While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).
9. The references made herein are done so for the convenience of the applicant. They are in no way intended to be limiting. The prior art should be considered in its entirety.
10. The prior art which is cited but not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ari M. Diacou whose telephone number is (571) 272-5591. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AMD 6/22/2006


JACK KEITH
SUPERVISORY PATENT EXAMINER